UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

AUGUST 1968

PART II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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U. S. Department of the Interior
Bureau of Commercial Fisheries
Fishery-Oceanography Center
P. O. Box 271
La Jolla, California 92037

*Part 1 - "Fishery Products Production and Market Data" is issued by the Bureau of Commercial Fisheries, Market News Service, U. S. Custom House, Terminal Island, California

R/V DAVID STARR JORDAN ALBACORE SURVEY CRUISE HIGHLY SUCCESSFUL

On August 16, Jordan completed a 31-day, 5,340 mile cruise during the height of the 1968 albacore season. The survey extended from Cape Blanco northward nearly to Cape Flattery and to 460 miles offshore. It was a highly successful cruise and fulfilled its stated objectives. The distribution and availability of albacore in offshore waters during the middle of the Pacific coast season was established, and prospects for commercial exploitation of albacore beyond the traditional limits of the fishery were evaluated. Our knowledge of the relation of albacore to the ocean environment was extended and an investigation was made of the temperature structure of the upper mixed layer of the sea, and of the time changes of temperature and heat flux parameters as they are related to meteorological events. Information was added to the life history and ecological knowledge of the Pacific albacore in addition to a study of movements within the fishery by tagging and releasing albacore.

Albacore were taken every day on all sections of the survey grid although fishing was not continuous throughout the daylight hours because of schedule limitations. The computed catch-per-effort data gave good indications of commercial fishing potential from the eastern-most line (127° W.) to 131° W. and between 40-45° N. in the latter half of July. Another potentially productive area was found near 46° N., 127° W. in the second week of August. Considering 100 fish per 100 line-hours[1] representative of minimum good commercial trolling there were 6 such days out of 23 and 3 more which exceeded 90 fish/100 line-hours.

Jordan did not deviate from the survey track even when multiple strikes indicated an active fishing area. Although this procedure limited the catch it helped to provide a standard measure of fishing potential.

Each morning of the cruise Jordan broadcast a summary of the previous day's activities using ship-to-ship frequency (2638 kHz). Each broadcast brought acknowledgements from commercial and/or sport fishing vessels in the area. Acting upon broadcast information several vessels from the Westport area recorded their first albacore catch of the year.

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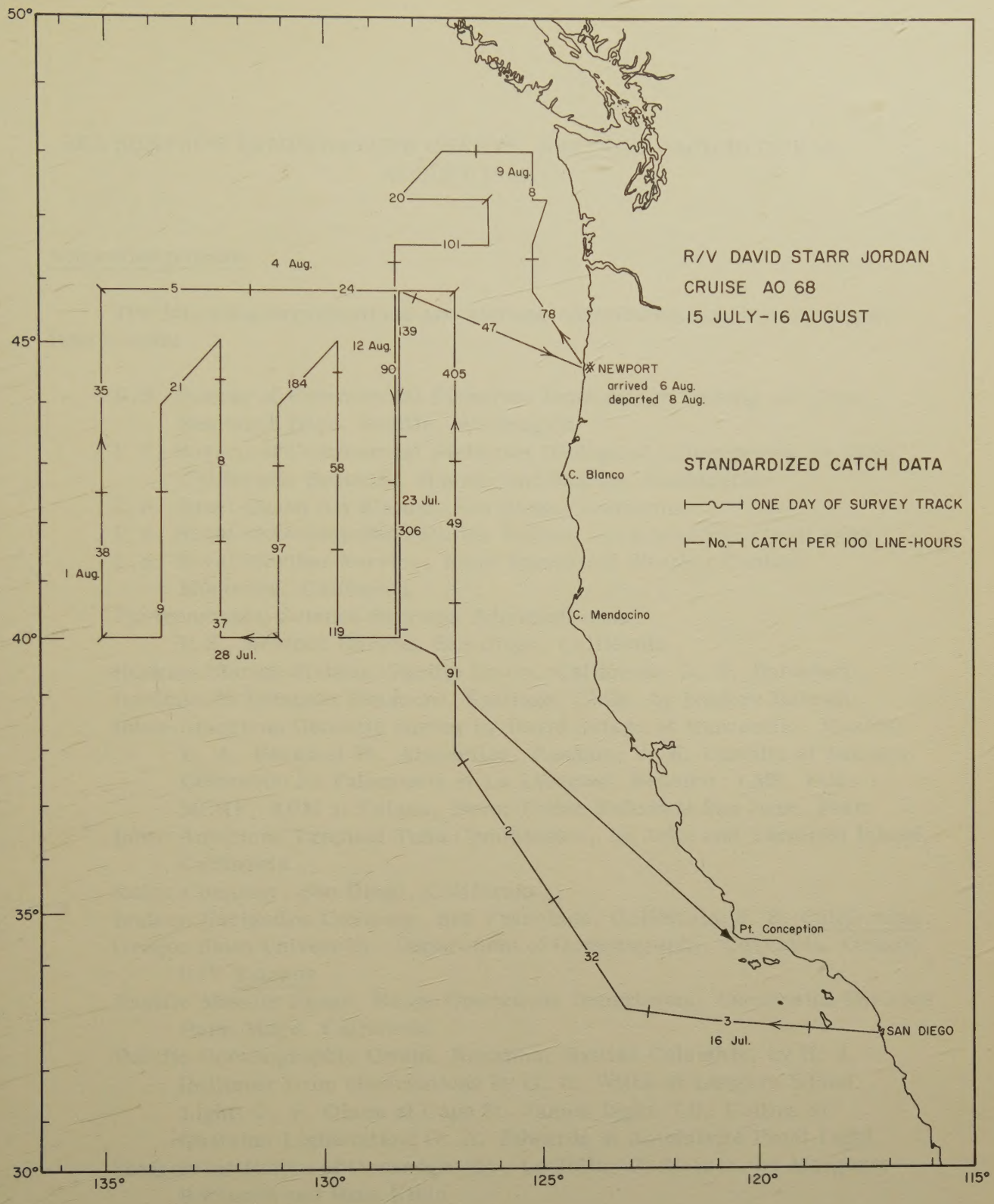
[1] This statistic standardizes our catch data for general usage. One hundred line-hours is almost equal to 1 days trolling using six lines.

The sea surface temperature within the survey grid ranged from 19° C. (66° F.) in the southwest corner to 15° C. (59° F.) in the upwelled waters near the Oregon coast. However, most of the survey grid had a small temperature range; 16.5 to 18.0° C. (61.7 to 64.4° F.). Records show that the major portion of the commercial catch is taken in waters of these temperatures. The thermocline was moderately shallow, between 20 and 30 meters. Except for the initial northbound leg (127° W.) the weather was fair and sunny with light winds. While fair weather was the rule offshore, the coastal region had occasional strong winds.

Ronald J. Lynn


R/V DAVID STARR JORDAN
CRUISE AO 68
15 JULY-16 AUGUST
STANDARDIZED CATCH DATA
ONE DAY OF SURVEY TRACK
No. CATCH PER 100 LINE-HOURS
NEWPORT
arrived 6 Aug.
departed 8 Aug.
C. Blanco
C. Mendocino
Pt. Conception
SAN DIEGO
1 Aug.
4 Aug.
9 Aug.
12 Aug.
23 Jul.
28 Jul.
16 Jul.
50°
45°
40°
35°
30°
135°
130°
125°
120°
115°

SEA SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN
AUGUST 1968

Acknowledgements

The following organizations and stations contributed data for the August 1968 charts:

U.S. Bureau of Commercial Fisheries Exploratory Fishing and Gear Research Base, Seattle, Washington
U.S. Bureau of Commercial Fisheries Biological Laboratories La Jolla, California; Honolulu, Hawaii; and Seattle, Washington
U.S. Coast Guard Air Station, San Diego, California
U.S. Naval Communication Station Balboa, Fort Amador, Canal Zone
U.S. Naval Weather Service, Fleet Numerical Weather Central Monterey, California
Environmental Science Services Administration
U.S. Weather Bureau, San Diego, California
Hopkins Marine Station, Pacific Grove, California, J. P. Balesteri
Instituto de Fomento Pesquero, Santiago, Chile, by Izadore Barrett
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Matson Navigation Company, San Francisco, California; S. S. Californian
Oregon State University, Department of Oceanography, Corvallis, Oregon
R/V Yaquina
Pacific Missile Range, Range Operations Department, Geophysics Division Point Mugu, California
Pacific Oceanographic Group, Nanaimo, British Columbia, by H. J. Hollister from observations by G. C. Wilks at Langara Island Light; C. F. Olsen at Cape St. James Light; Lily Collins at Quatsino Lightstation; O. A. Edwards at Amphitrite Point Light
Scripps Institution of Oceanography, La Jolla, California, by Margaret Robinson and Hans Klein
W. R. Grace and Company, New York, by Dr. I. William Lane
Ships Martinac

Charts

Figure 1.--Mean sea surface temperatures (°F) derived from approximately 9000 observations. Squares show temperatures at weather ship stations. Numerals on shore are temperatures at coastal and lightship stations.

Figure 2.--Deviation of sea surface temperatures (°F) from long term charts of H.O. 225. Hatched areas are colder in 1968.

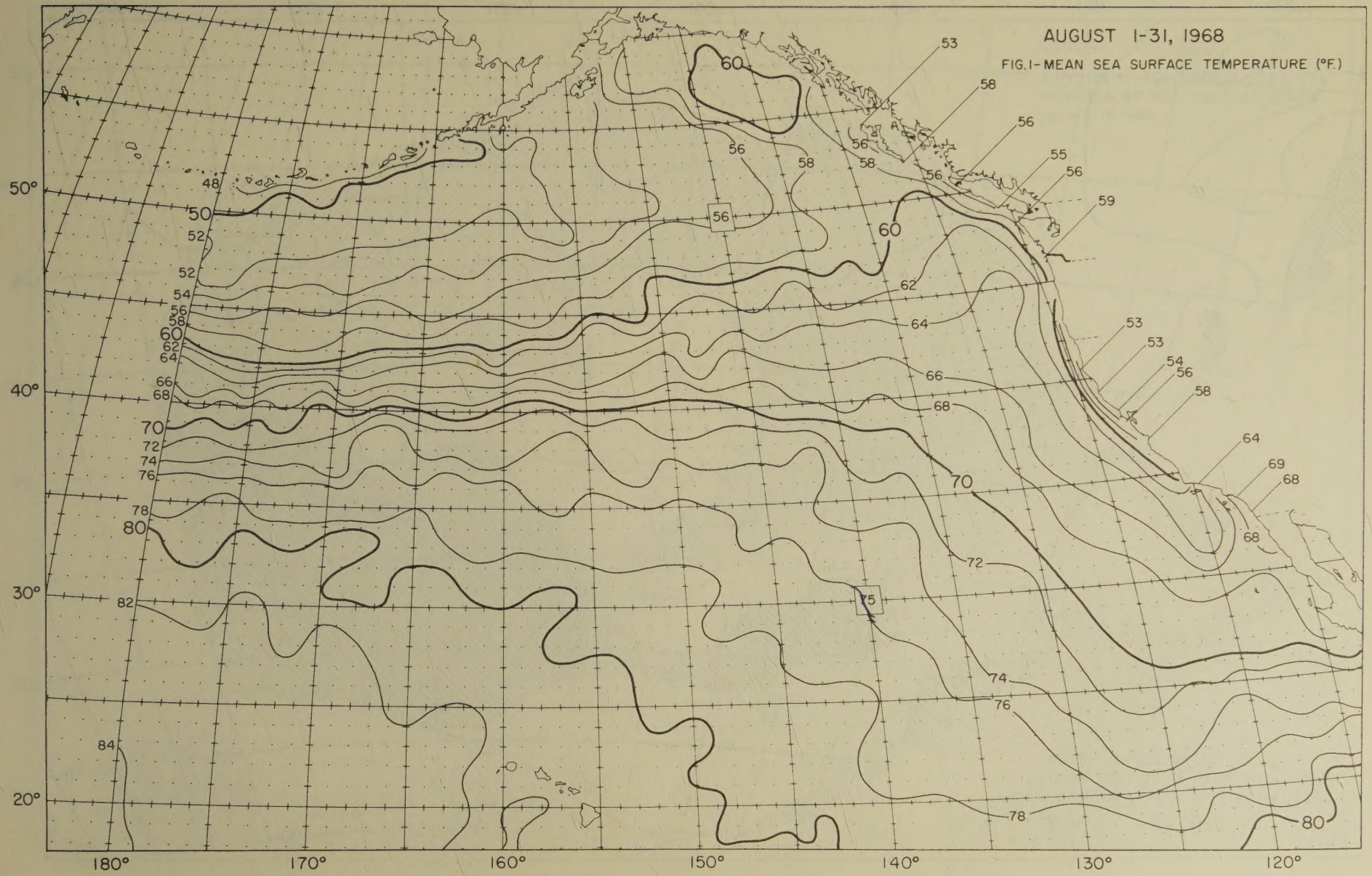
Figure 3.--Deviation of sea surface temperatures (°F) from those of August 1967. Hatched areas are colder in 1968.

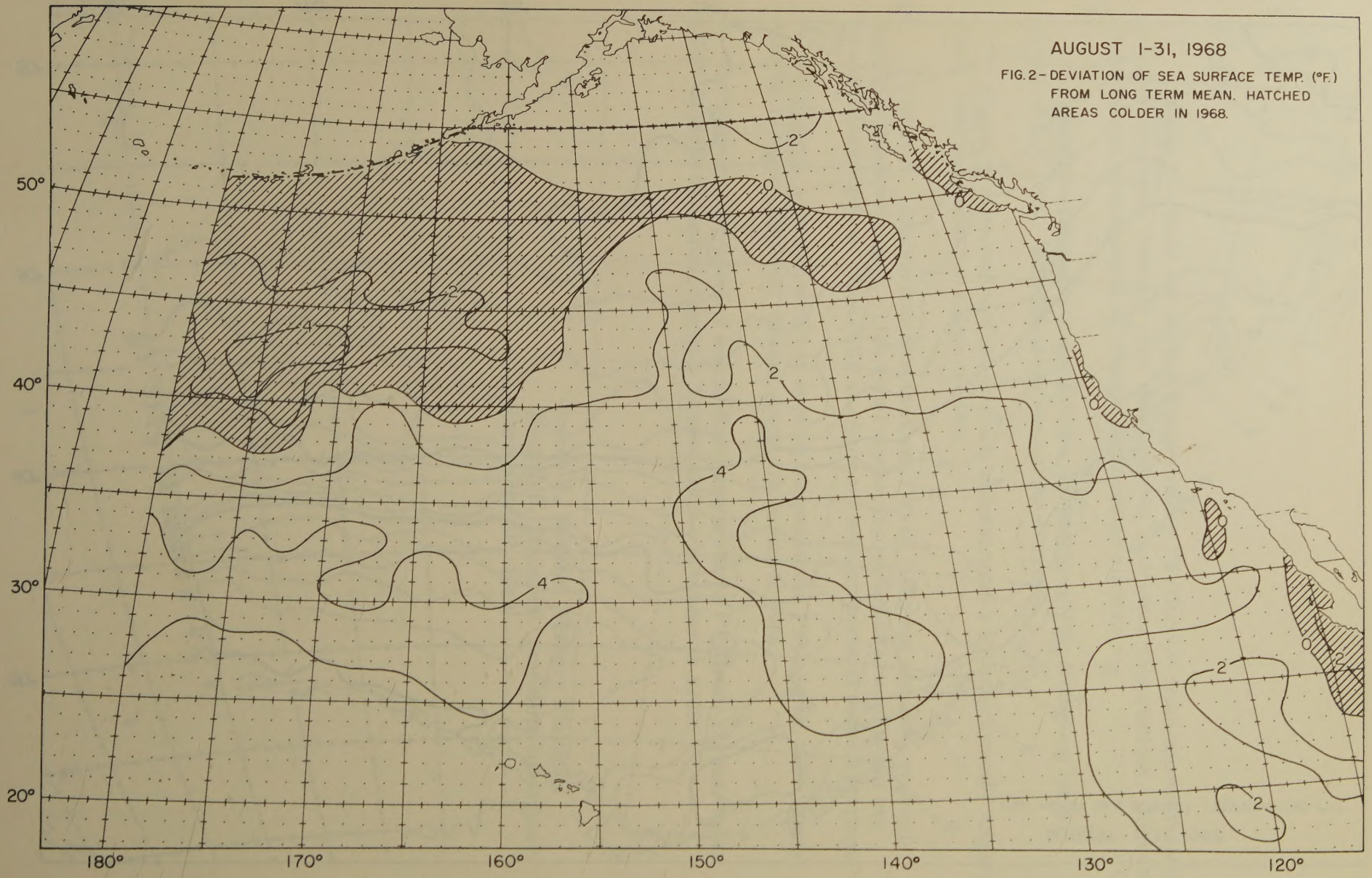
Figure 4.--Sea surface temperatures (°F) by 1-degree squares, approximately 3000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal stations.

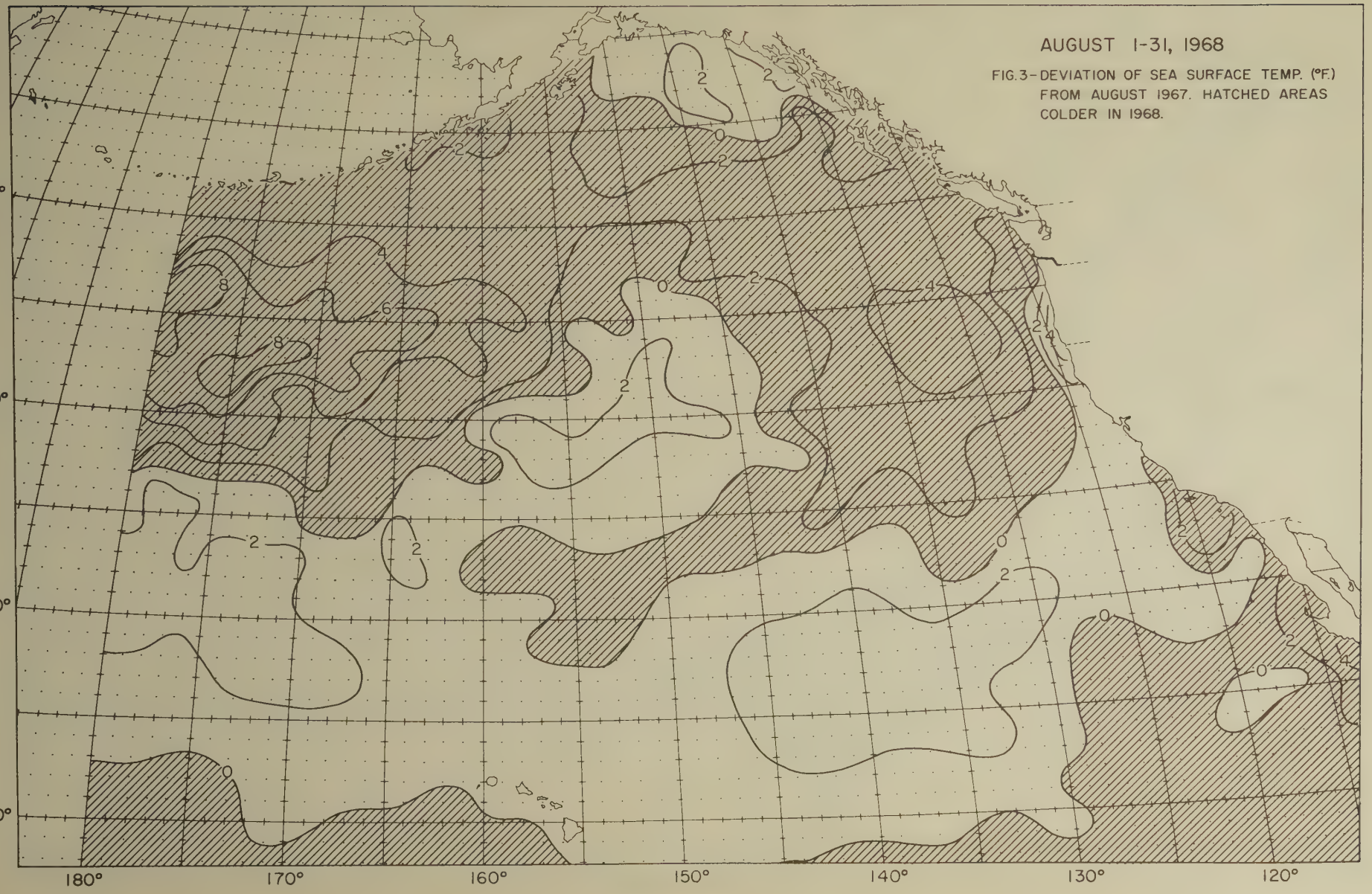
Figure 5.--Deviation of sea surface temperatures (°F) August 1968-August 1967 by 1-degree squares. Shaded areas are colder in 1968.

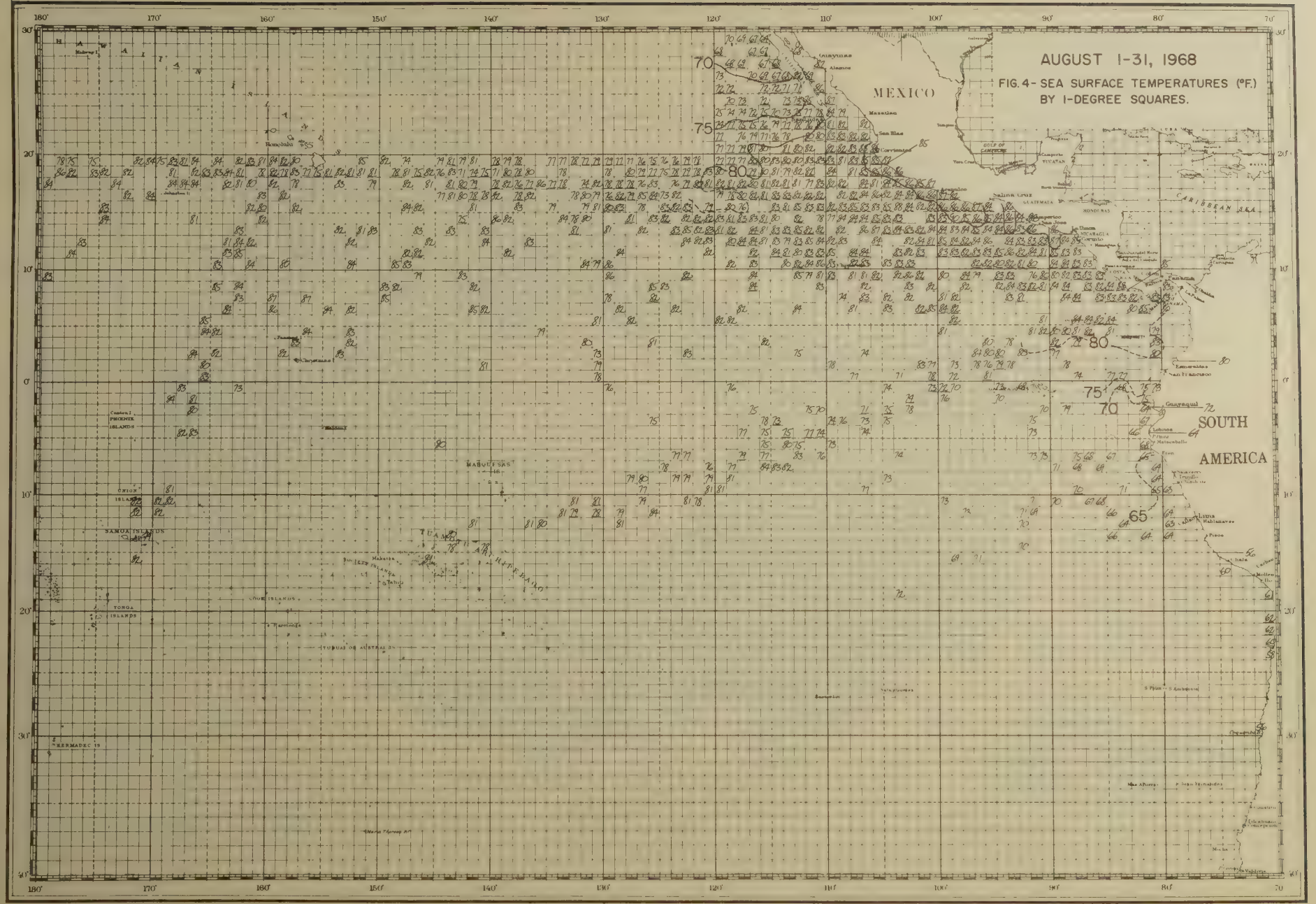
Figure 6.--Deviation of sea surface temperatures (°F) from 12-year mean (1947-1958) by 2-degree squares. Shaded areas are colder in 1968.

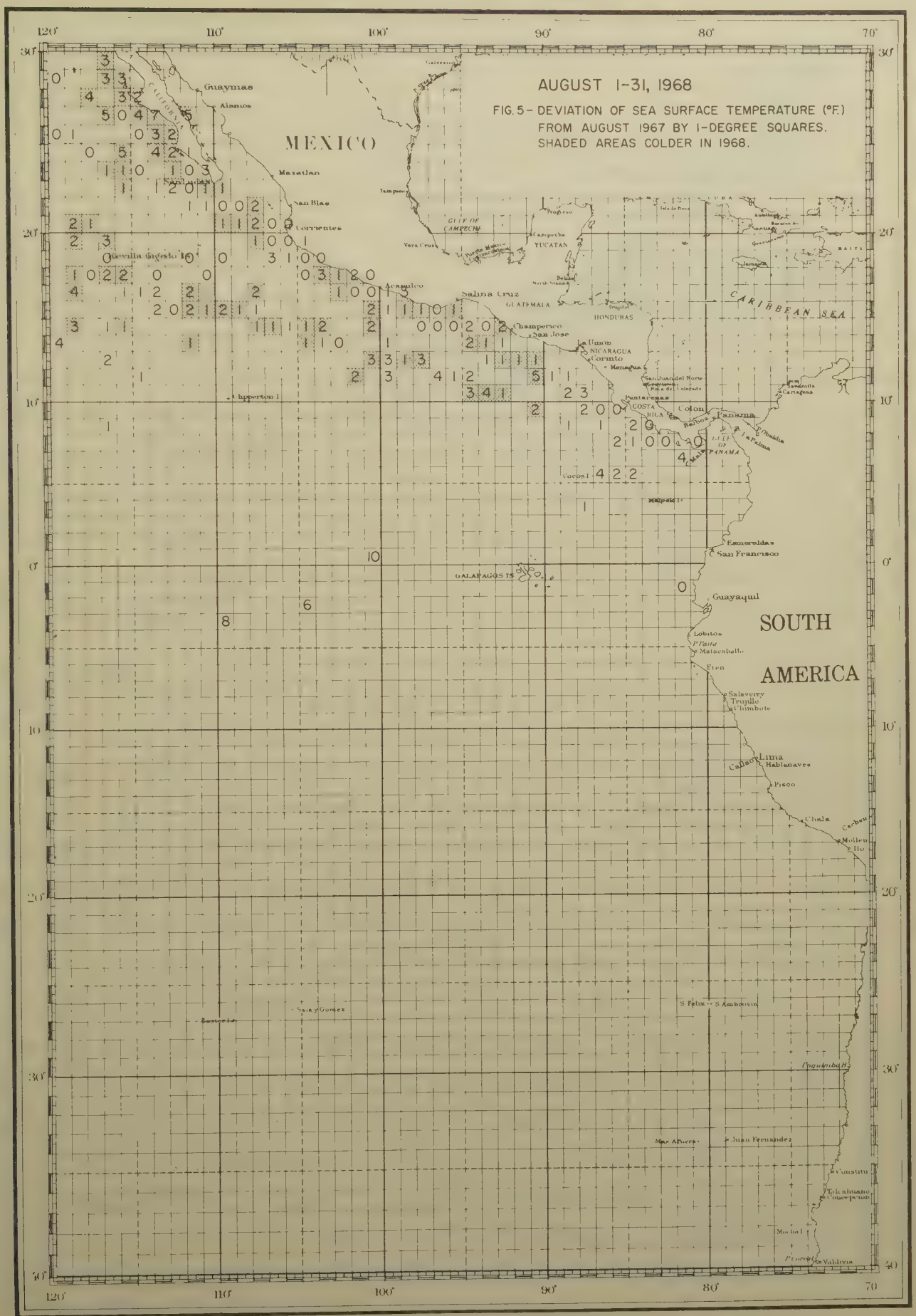
James A. Renner, Fishery Biologist
Kenneth S. Raymond, Scientific Illustrator
September 10, 1968

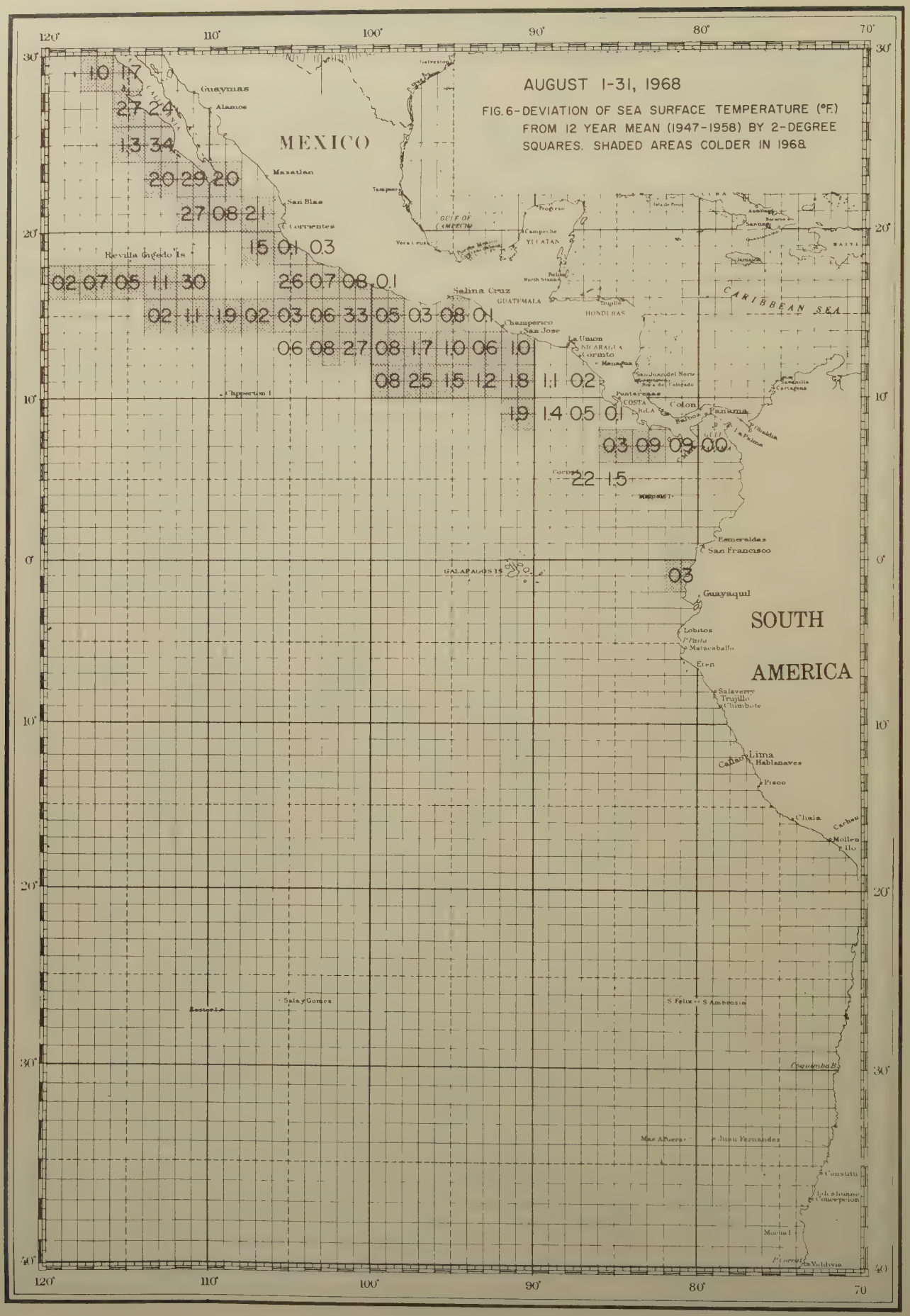

AUGUST 1-31, 1968
FIG.1-MEAN SEA SURFACE TEMPERATURE (°F.)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


AUGUST 1-31, 1968
FIG. 2 - DEVIATION OF SEA SURFACE TEMP. (°F.) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1968.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
2
0
2
4
2
4
0
2
2
2


AUGUST 1-31, 1968
FIG. 3 - DEVIATION OF SEA SURFACE TEMP. (°F.) FROM AUGUST 1967. HATCHED AREAS COLDER IN 1968.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


AUGUST 1-31, 1968
FIG. 4 - SEA SURFACE TEMPERATURES (°F.) BY 1-DEGREE SQUARES.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CALIFORNIA
Honolulu
Mazatlan
San Blas
Salina Cruz
Acapulco
Manzanillo
Guayaquil
Callao
Lima
Iquique
Arica
Valparaiso
Easter I.
Juan Fernandez Is.
Galapagos Is.
Cocos I.
Clipperton I.
Christmas I.
Canton I.
PHOENIX ISLANDS
MARQUESAS
UNION ISLANDS
SAMOA ISLANDS
TUAMOTU
SOCIETY ISLANDS
TONGA ISLANDS
KERMADEC IS.
TUBUAI OR AUSTRAL IS.
70
75
80
75
70
65


AUGUST 1-31, 1968
FIG. 5 - DEVIATION OF SEA SURFACE TEMPERATURE (°F.) FROM AUGUST 1967 BY 1-DEGREE SQUARES. SHADED AREAS COLDER IN 1968.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CALIFORNIA
GULF OF CAMPECHE
GULF OF PANAMA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
YUCATAN
CUBA
HAITI
JAMAICA
GALAPAGOS IS.
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Acapulco
Salina Cruz
Champerico
San Jose
Corinto
Managua
Puntarenas
Colon
Panama
Esmeraldas
San Francisco
Guayaquil
Lobitos
Talara
Malabrigo
Eten
Salaverry
Trujillo
Chimbote
Callao
Lima
Pisco
Chala
Mollendo
Iquique
Arica
Juan Fernandez
Valdivia
Progreso
Campeche
Vera Cruz
Tampico
Belize
Kingston
Cartagena
Coco I.


AUGUST 1-31, 1968
FIG. 6-DEVIATION OF SEA SURFACE TEMPERATURE (°F) FROM 12 YEAR MEAN (1947-1958) BY 2-DEGREE SQUARES. SHADED AREAS COLDER IN 1968
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CALIFORNIA
YUCATAN
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Salina Cruz
Chiapertom I
Chemperico
San Jose
La Union
Corinto
Managua
Punta Arenas
Colon
Panama
Esmeraldas
San Francisco
Guayaquil
Lobitos
Talara
Malacaballo
Eten
Salaverry
Trujillo
Chimbote
Lima
Callao
Hablanaves
Pisco
Chala
Caribou
Mollendo
Ilo
Sala y Gomez
S. Felix
S. Ambrosio
Juan Fernandez
Mas A Fuera
Valdivia
Corcovado G
Constitu
Talcahuano
Concepcion
Mocha I
10 17
27 24
13 34
20 29 20
27 08 21
15 01 03
02 07 05 11 30
26 07 08 01
02 11 19 02 03 06 33 05 03 08 01
06 08 27 08 17 10 06 10
08 25 15 12 18 11 02
19 14 05 01
03 09 09 00
22 15
03
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
40°

U.S. FISH AND WILDLIFE SERVICE
BUREAU OF COMMERCIAL FISHERIES
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BULLETIN NO. 68-5

ALBACORE PRODUCTION HITS NEW HIGH IN OREGON AND WASHINGTON WHILE CALIFORNIA HITS NEW LOW

Two continuous weeks of good weather, combined with a very large concentration of albacore in Oregon-Washington offshore waters, have spurred production to new early-season levels in region. Landings to date appear to be limited only by the ability of portside facilities to unload process the fish. Thus, if the present landings trend continues unabated until the end of the month ust production may reach 18 million pounds, establishing a new record. This total will be nearly e as high as the August long-term production average for California (about 9.9 million pounds), will be equalled or exceeded only two times on record--in 1948 (20.2 million pounds) and in 1960 2 million pounds). In California, the very poor production trend established in mid-July continues anged. August landings are expected to fall below 2 million pounds, and will probably include e landings trickling into northern California ports which have originated from areas farther to north.

The ocean environment in southern California reflects reduced upwelling and recent inshore ming, creating upper mixed layer temperatures conducive to the appearance of subtropical species as yellowfin and skipjack tuna, dolphin fish, and marlin. Central California waters reflect near-rage conditions, and the region extending from off Morro Bay to Cape Mendocino offers promise of albacore production whenever wind and sea conditions permit easy access to the offshore zone. gon and Washington waters continue to show the best production potential; albacore are now being ed as far north as the 48th parallel and offshore to 128 degrees west. The Columbia River Plume on continues to produce the highest catches as boats work the sharp temperature and salinity dary zone 80 to 120 miles offshore.

Weatherwise, good late summer weather should be the rule. However, major changes in the e-scale weather patterns observed in the past 3 to 4 days suggest a change from meridional to l flow along the U.S. west coast, creating conditions permitting fast-moving frontal systems to r the Pacific northwest. The eastern north Pacific high cell has been pushed southward, allowing ng westerly winds to dominate the area. If the present weather trend continues, fishermen and pr ors are advised to expect stormy weather to settle into Washington and Oregon temporarily, forci ishing fleet into port, and further complicating present delays in unloading schedules.

d at sea, July 15, 1968

Glenn A. Flittner

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE
BUREAU OF COMMERCIAL FISHERIES
Fishery-Oceanography Center
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BULLETIN NO. 68-6

ALBACORE PRODUCTION CONTINUES AT RECORD LEVEL IN THE PACIFIC NORTHWEST

Albacore tuna landings have continued to swell totals at Pacific Northwest ports, and are expected to set a new ust record in Oregon. Oregon landings will probably fall between 18 and 20 million pounds, and will nearly equal August production record set in 1948 in California (20.2 million pounds). In California, landings continue at record levels, and include fish originating from Oregon-Washington offshore waters. Local production in southern and tral California districts has been spotty and inconsequential. Few days have been reported as "good" and all have n extremely short-lived. On the other hand, good to excellent fishing has prevailed in the northern Oregon-shington offshore region; the center of production appears to have been in the Columbia River plume and its thern edge off Grays Harbor. Good fishing was reported in the third week of August about 100 miles west of Cape ttery, but bad weather quickly terminated activity there. Although jigboats have been doing well in the northern ion, baitboats have experienced difficulty in making good catches because of relatively cool sea temperatures and rmittent adverse weather.

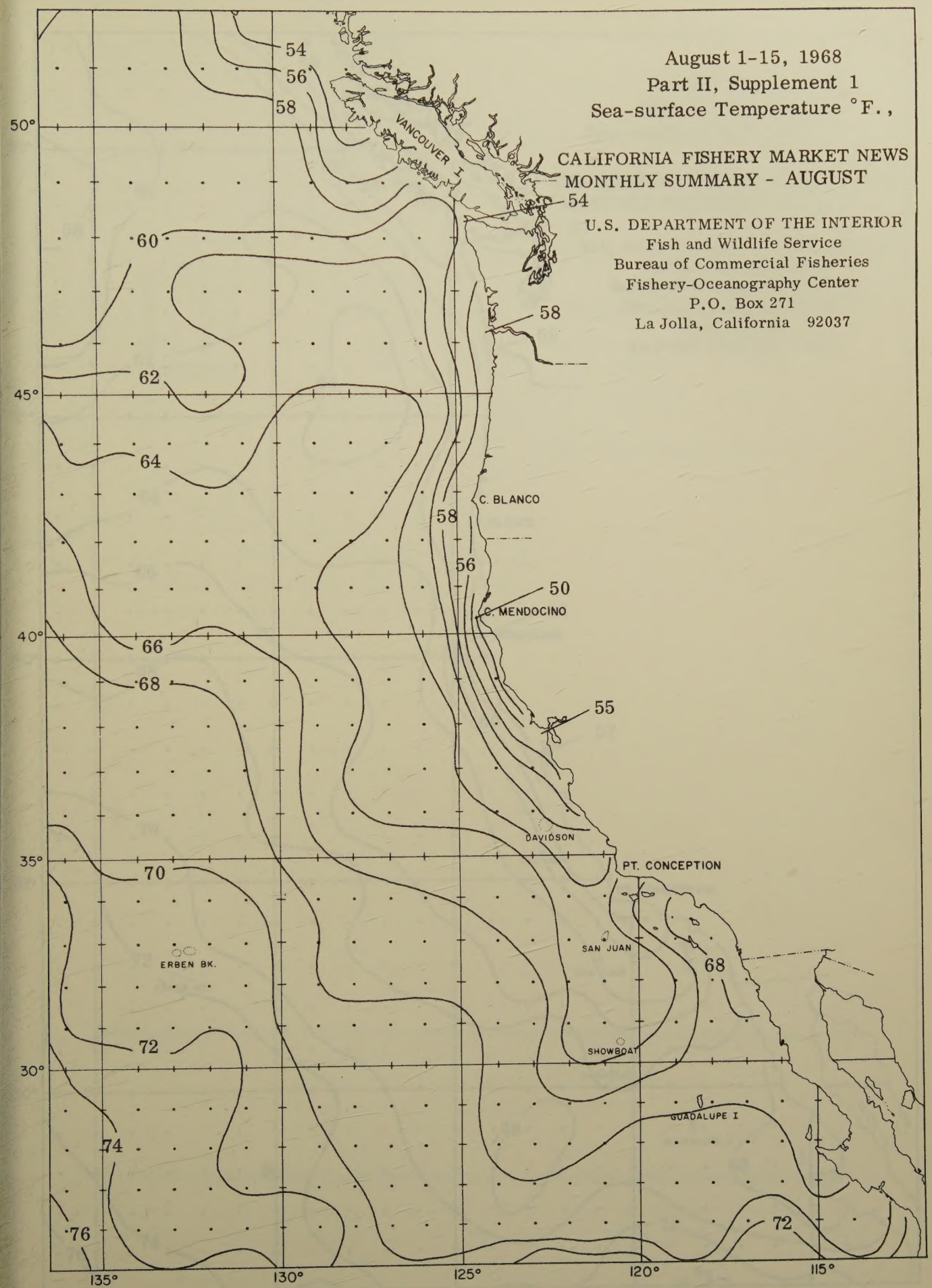
The ocean environment in the Oregon-Washington offshore region has experienced little warming since the end uly. The last half of August shows a return to near-normal conditions, and reflect a 2-4° F. reduction in tempera-es over the same period last year. Present trends suggest that oceanographic conditions will reflect the long-term rages for the first half of September. If normal weather conditions prevail during the forthcoming month, sea peratures are expected to remain near the long-term average. However, if intense early fall storms move into district, the fishing season will be foreshortened by early onset of the annual cooling cycle, forcing the albacore nove offshore and to the south.

Present weather conditions are favored by an intense quasi-stationary high pressure system situated about 450 es west of the Oregon coast. This system will shunt fall-season lows into the Gulf of Alaska, and will favor north-terly winds in southern Oregon, bringing clear skies and relatively smooth seas in this region. Northern and tral California districts will continue to experience strong northerly winds and rough seas. Fishing in these areas thus be restricted to intermittent slack periods between windy spells.

At the present time, the outlook for the remainder of the season is good. Unless severe weather commences ly (as happened in late September last year), Oregon landings should approach 32 million pounds. California landings rise in September as boats return to home port with partial fares, and may fall between 6-10 million pounds for year. Landings in Washington ports may also swell the season's total appreciably, thus bringing the U.S. West st production total to near 40-42 million pounds, or about 2 million pounds above the 1940-1967 average. Of this l, almost 38 million pounds will have originated from Pacific Northwest waters.

ust 30, 1968

Glenn A. Flittner
Leader, Fishery-Oceanography Program


August 1-15, 1968
Part II, Supplement 1
Sea-surface Temperature °F.,
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - AUGUST
U.S. DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Commercial Fisheries
Fishery-Oceanography Center
P.O. Box 271
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50°
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72
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76
VANCOUVER I
C. BLANCO
C. MENDOCINO
DAVIDSON
PT. CONCEPTION
SAN JUAN
SHOWBOAT
ERBEN BK.
GUADALUPE I
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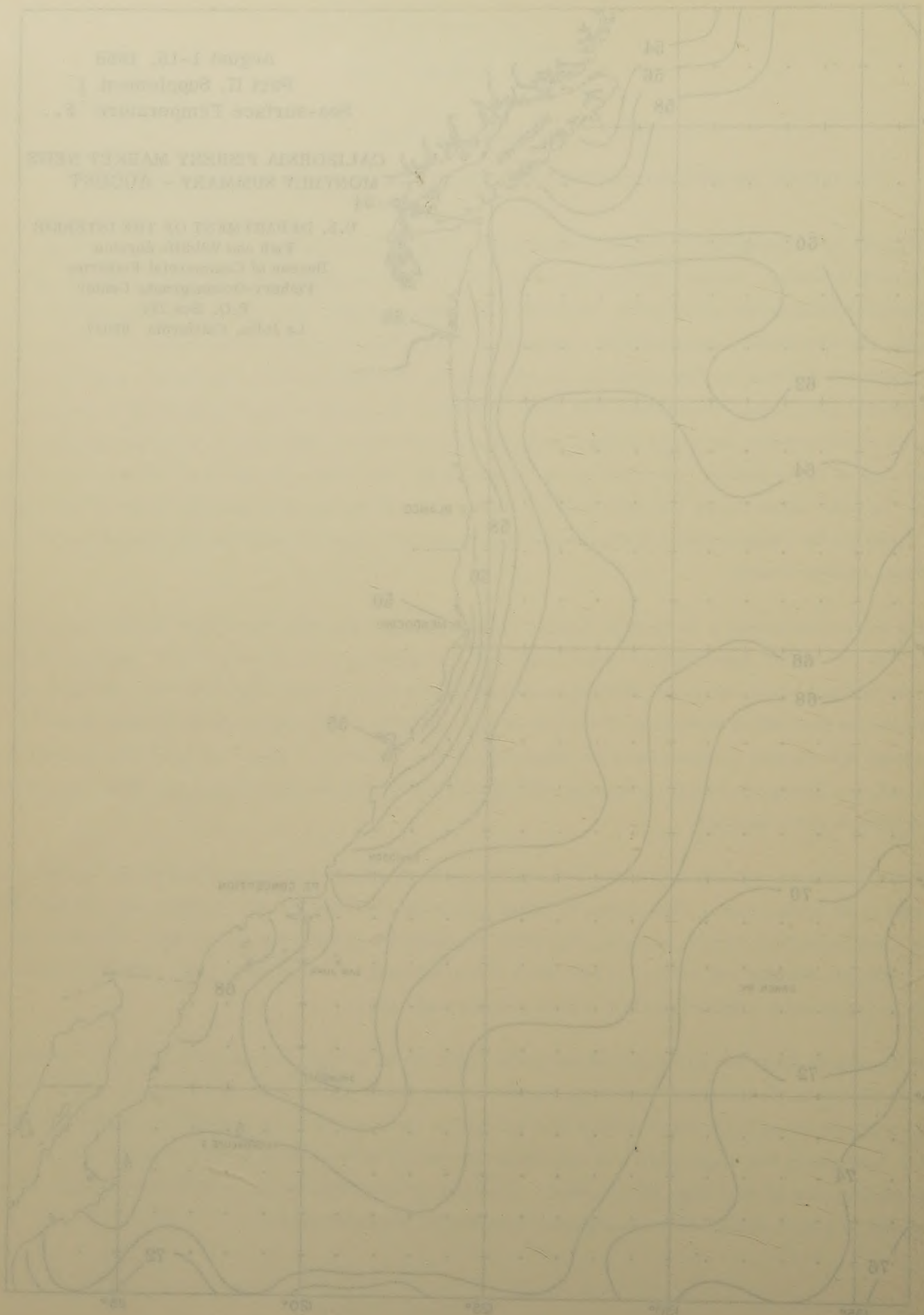
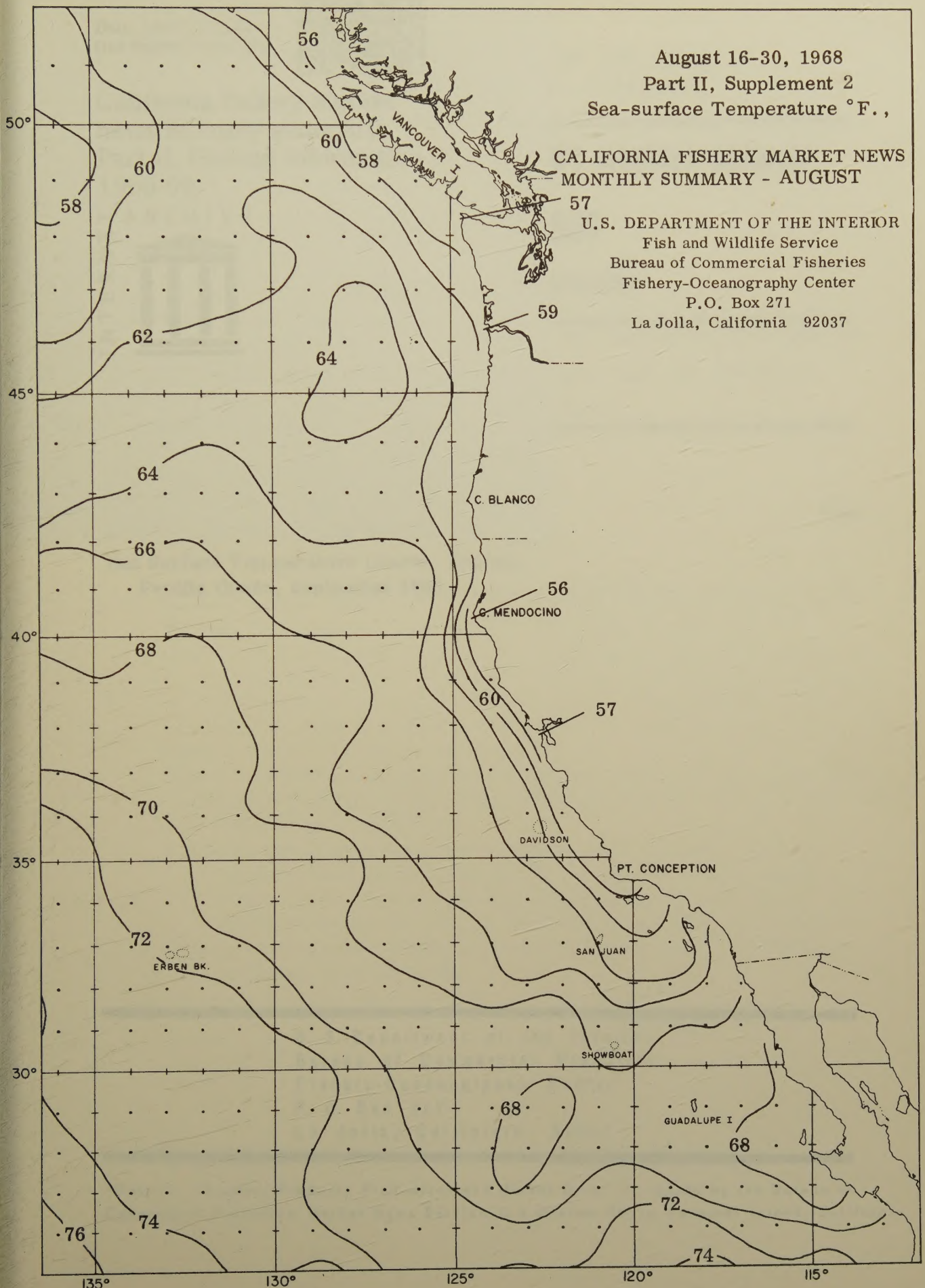
55




August 16-30, 1968
Part II, Supplement 2
Sea-surface Temperature °F.,
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - AUGUST
U.S. DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Commercial Fisheries
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VANCOUVER I.
C. BLANCO
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PT. CONCEPTION
SAN JUAN
SHOWBOAT
GUADALUPE I
ERBEN BK.
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